



BiB-19 Pump Features and Data Sheet

The table refers to the general properties of a BiB19 Pump (Rev C).

Mechanical Properties	SI	Imperial
Flow Rate Per Revolution	1.5 ml	0.05 fl.oz.
Minimum Resolution	0.50 ml	0.017 fl.oz.
Operating Temperature ⁽¹⁾	2°C - 40°C	35.6°F - 104°F
Number of Boluses	3	
Baseline accuracy ⁽²⁾	+/-4.1% at +/-3 SD	
Operating Speeds (RPS)	1 - 10	
Average Drive Torque (mNm)	200 ⁽³⁾	
Max Drive Torque (mNm)	700	
Operating Life	10 L	

(1) Pump dose volume may vary at different temperatures and viscosities

(2) At 5 RPS with water at room temperature and no backpressure

(3) At 5 RPS with water at room temperature and no backpressure

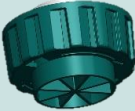

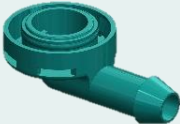
Pump Type	Ready to Drink	Post Mix	High Viscosity	High Output Pressure	Regulated Output Pressure	Long Pipe Runs	High Vacuum
Standard	✓				✓		✓
High Pressure			✓	✓		✓	
Dilution		✓	✓	✓			

Sterilization Method	Dose [kGy]
Gamma	15.1 – 17.2
Gamma*	32.4 – 43.7
X-Ray*	27.9 – 28.8
E-Beam	25.4 – 46.0

**Alternative pump materials*

On the inlet side the pump is compatible with a standard 1" gland.

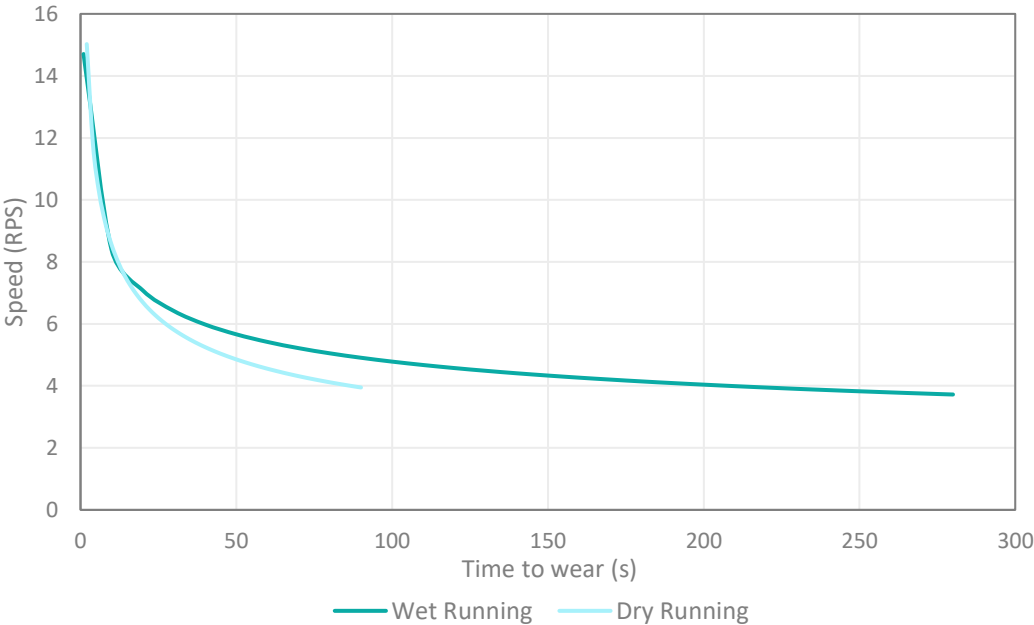
The following table shows the different nozzles and valves that can be used on the outlet of the different variations of the Quantex BiB-19 Pump. Custom fittings can be designed upon request.

Fitting	Name	Standard Pump	High Pressure Pump	Dilution Pump
	Laminar flow outlet with valve	✓	✓	
	Mixer Nozzle with valve			✓
	Dome valve with holder - For high viscosity fluids	✓	✓	
	Elbow Connector with optional particulate valve (in development)	✓	✓	

Ref: PR003

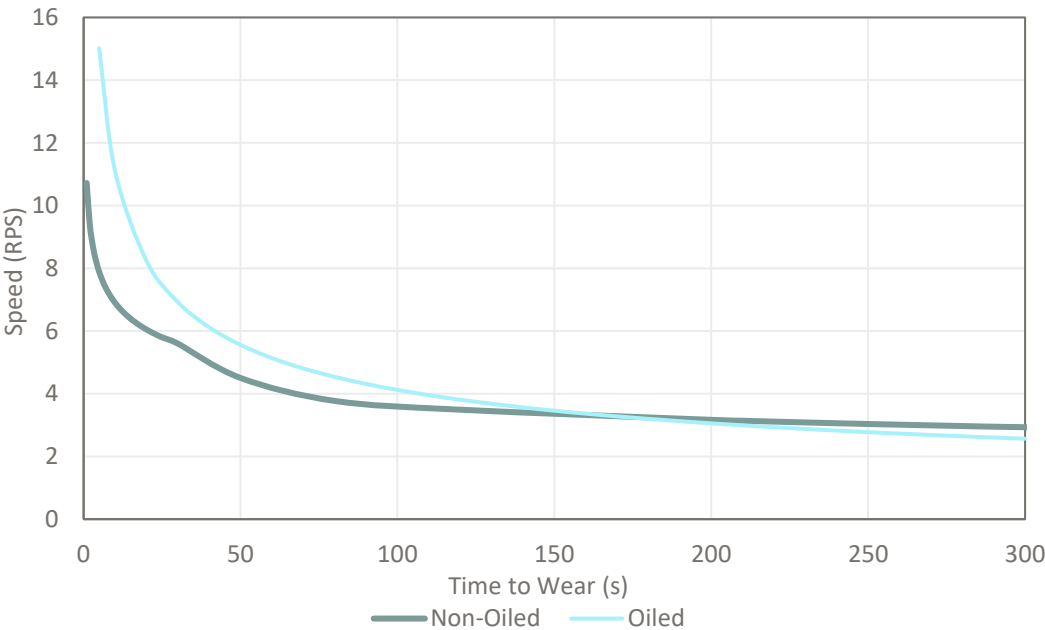
The following chart shows the duty cycle* for a BiB-19 pump with lubricated rotor for wet and dry running. Operation under the curve will dispense pack volume with a safety factor of 5 (typically 5x1L).

**The maximum time that the pump can be run continuously at a particular rotation speed (RPS)*



Ref: TR003

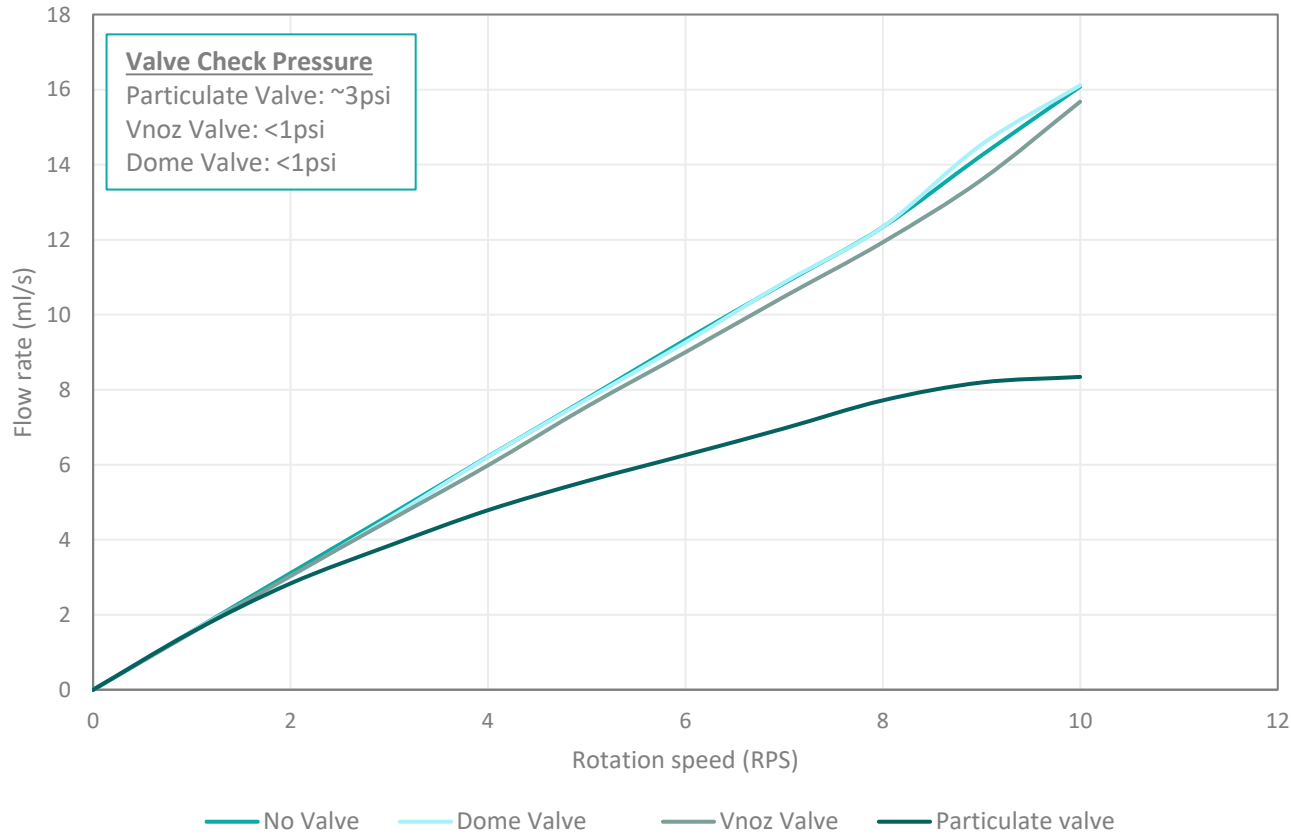
The following chart compares the dry running performances of a BiB19 oiled pump and a BiB19 non-oiled pump, where the rotor of the pump is not lubricated.



Ref: 200922

The following chart shows the flow rate performance of a Quantex BiB-19 Standard Pump at different rotation speeds (RPS). The chart also shows the pump performance using different Quantex valves which have different check pressures

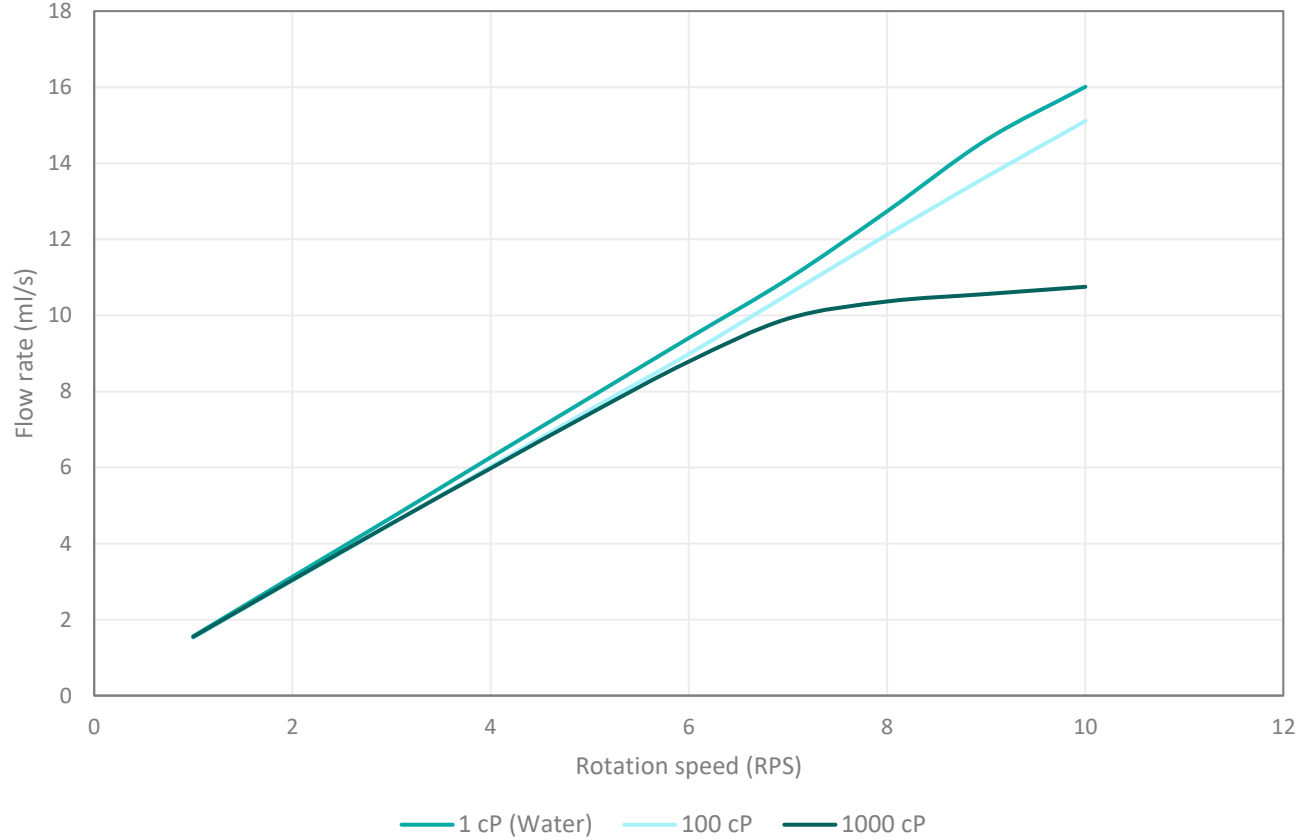
Flow Rate vs Speed



Ref: TR001

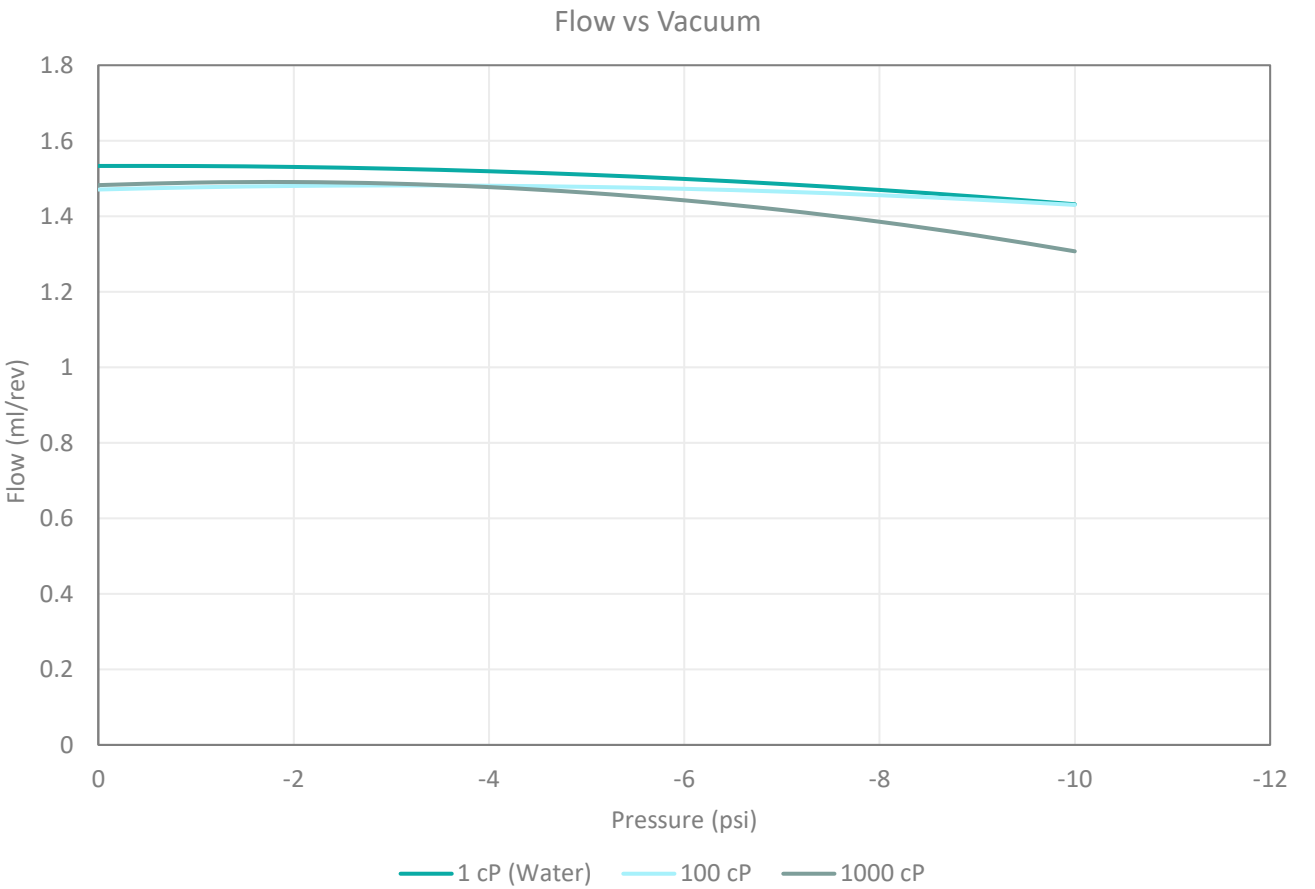
The following chart shows the flow rate performance of a Quantex BiB-19 Standard Pump at different viscosities and rotation speeds. The liquid used is a glycerol-water mixture at 20C.

Flow Rate vs Speed



Ref: TR001

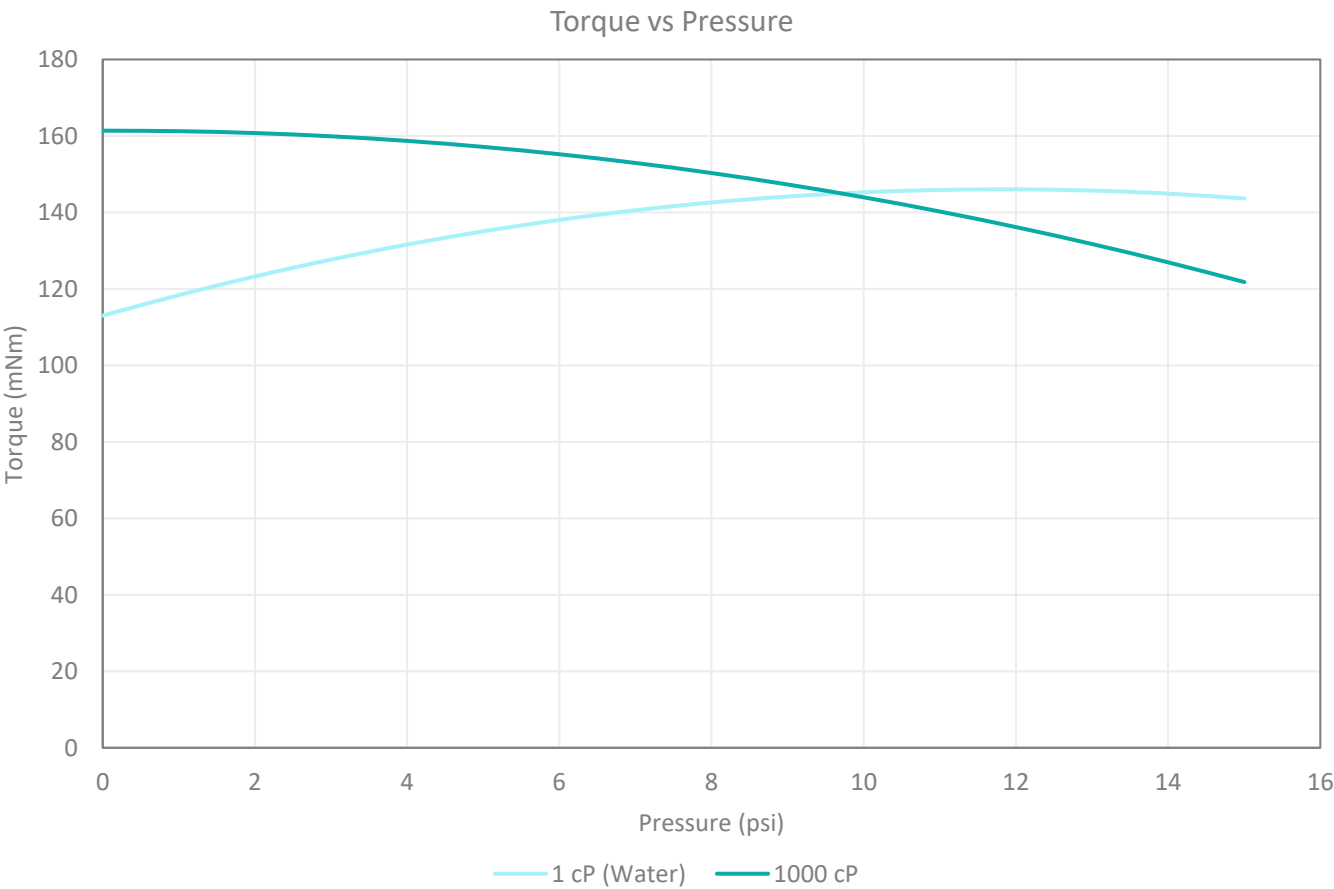
The following chart shows the performance of a Quantex BiB-19 Standard Pump against vacuum for different viscosities at 5 RPS. The liquid used is a glycerol-water mixture at 20C.



Ref: TR002

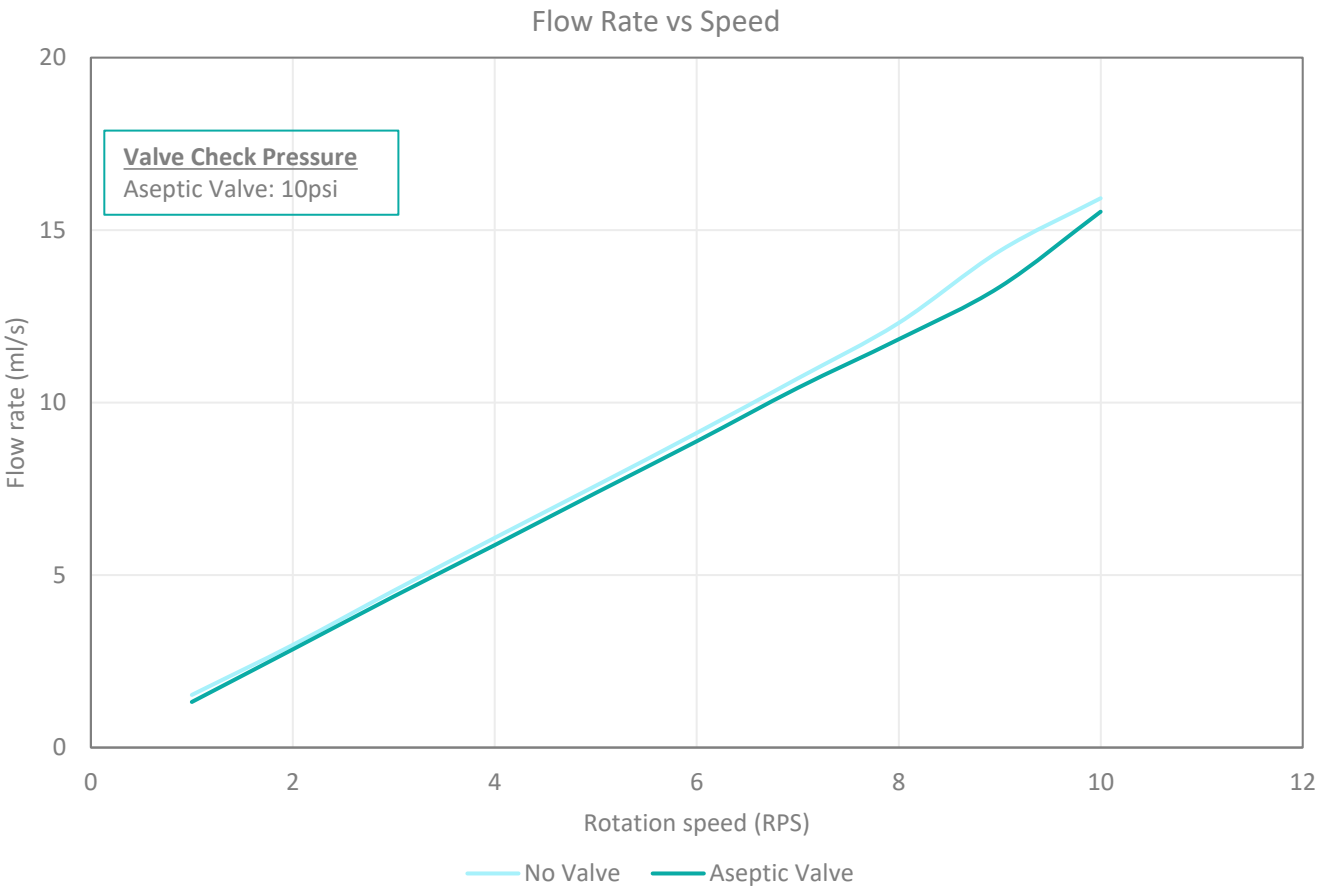
The following chart shows the torque of a Quantex BiB-19 Standard Pump for different viscosities and back pressures at 5 RPS. The liquid used is a glycerol-water mixture at 20C.

The difference in torque is the consequence of the varying lubricity of the test liquid.



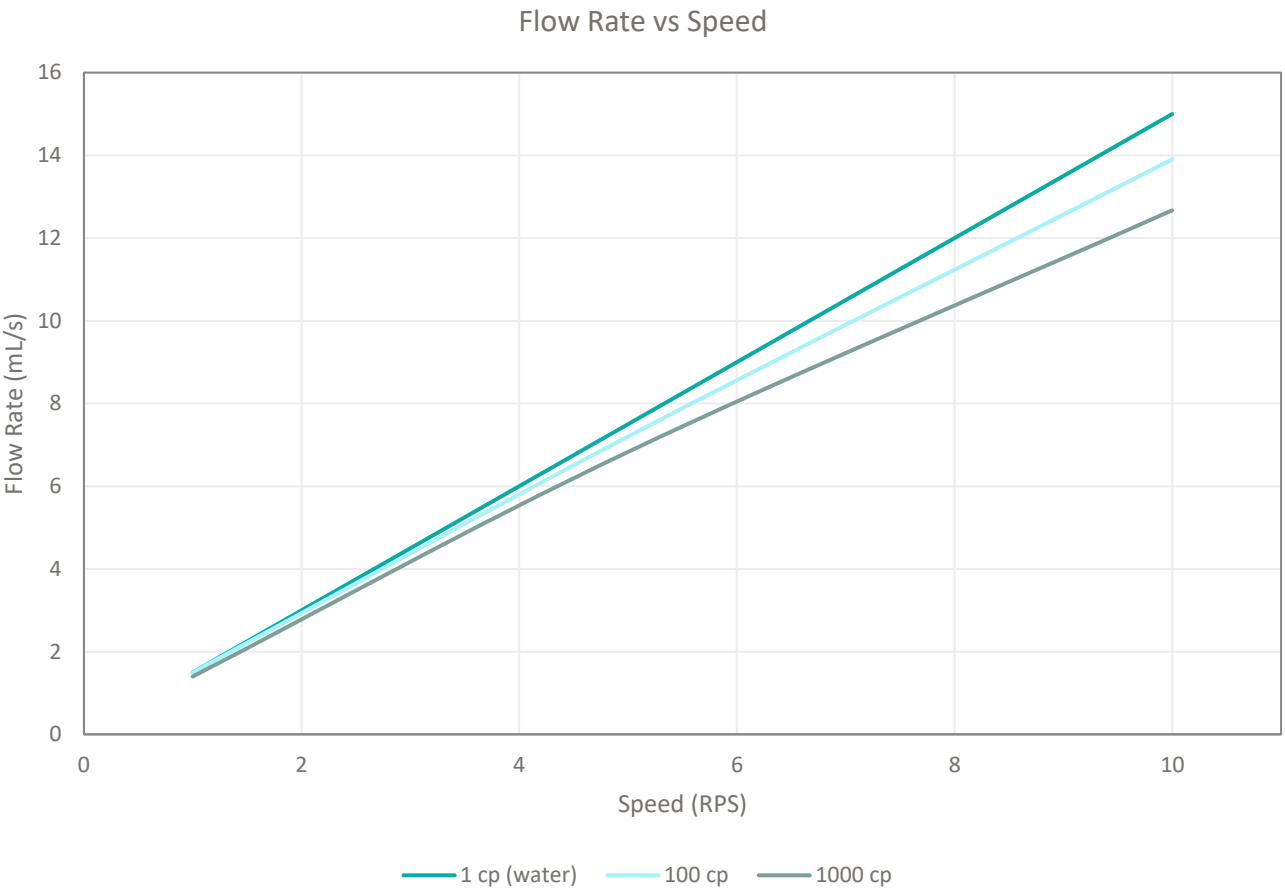
Ref: TR002

The following chart shows the flow rate performance of a Quantex BiB-19 High Pressure Pump at different rotation speeds (RPS). The chart also shows the pump performance using an aseptic valve which generates a high back pressure of about 10 psi. Since the curves of other Quantex valves with lower back pressure fall between these curves, they are not shown on this chart.



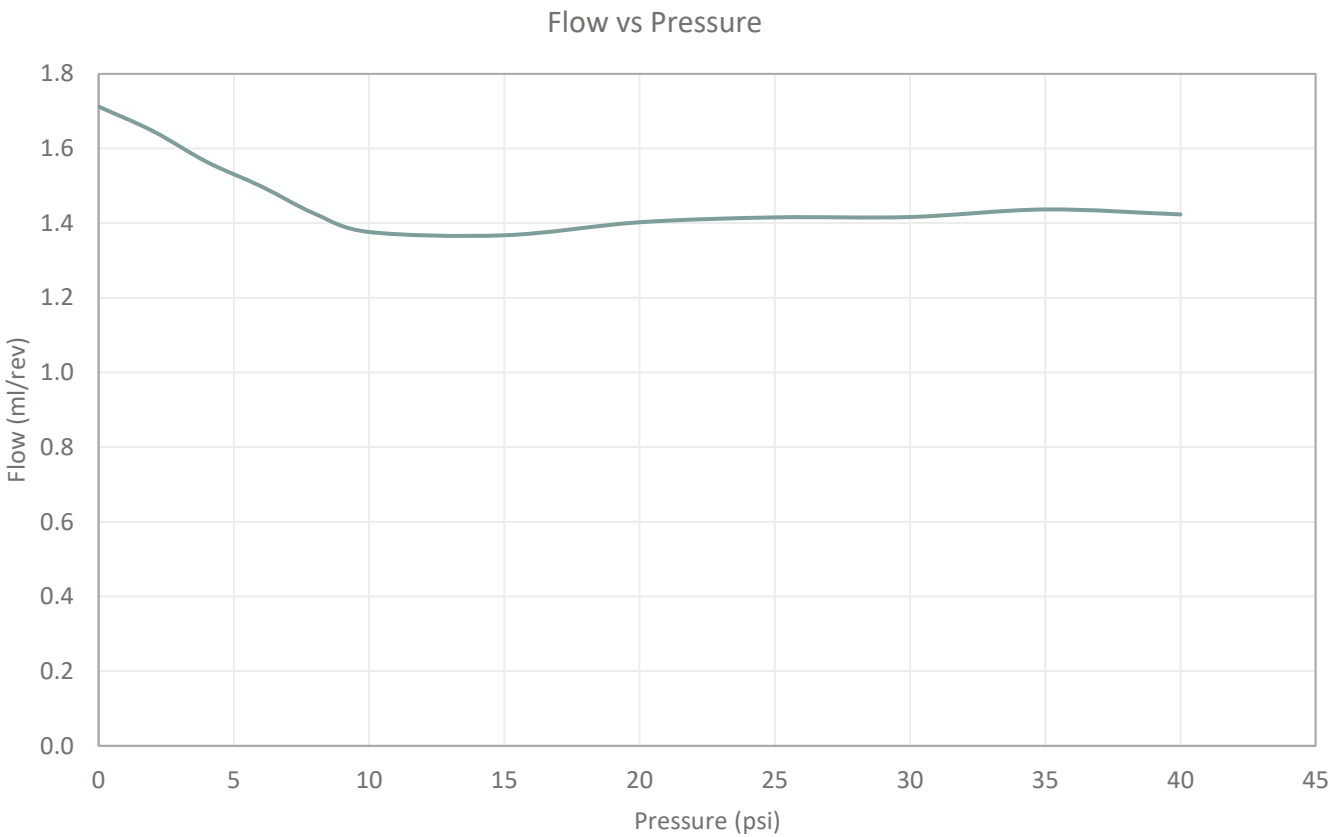
Ref: TR001

The following chart shows the flow rate performance of a Quantex BiB-19 High Pressure Pump at different viscosities and Rotation Speeds. The liquid used is a glycerol-water mixture at 20C.



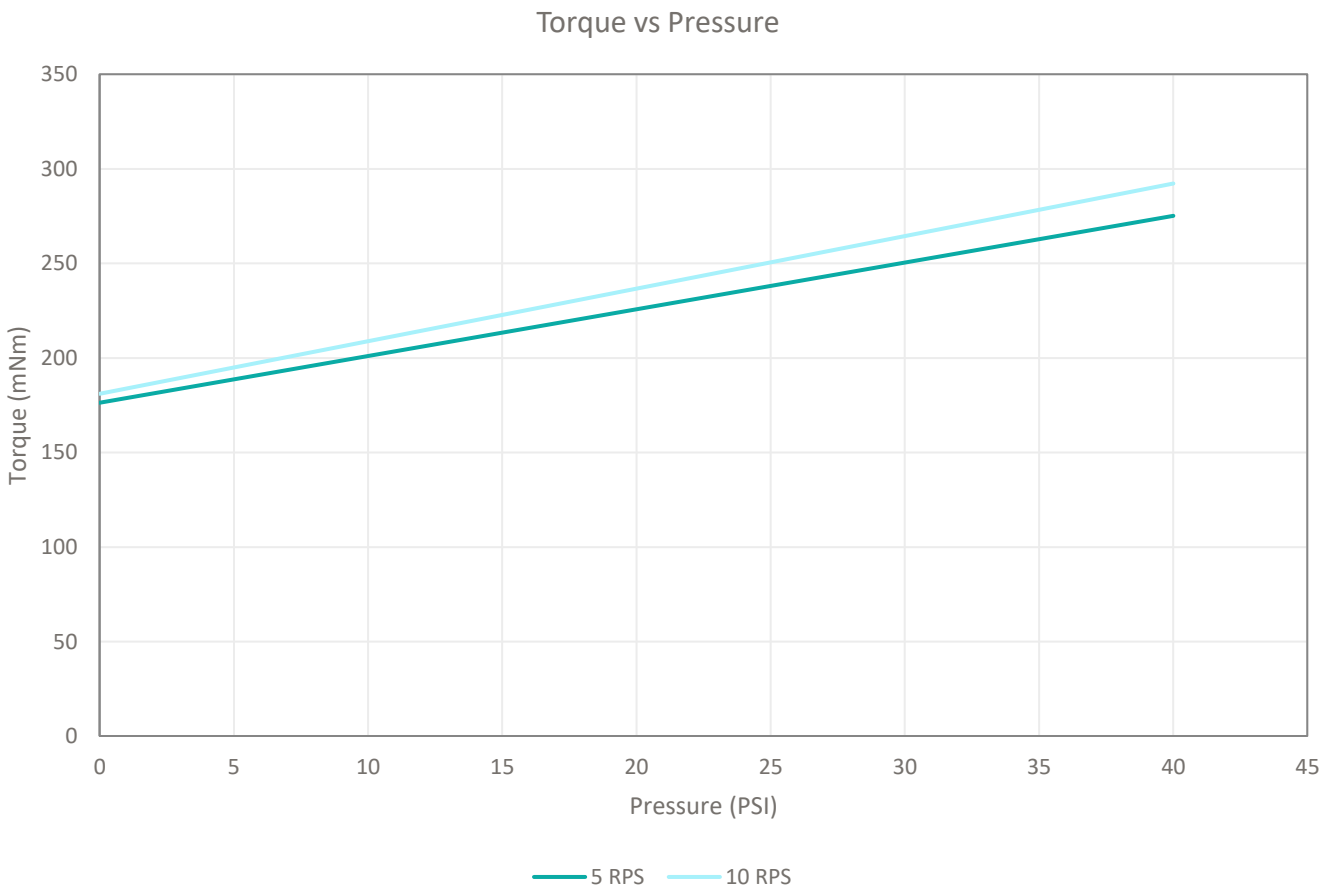
Ref: PR-021

The following chart shows the performance of a Quantex BiB-19 High Pressure Pump against back pressure at 10 RPS with water.



Ref: PR-020

The following chart shows the torque of a Quantex BiB-19 High Pressure Pump at 5 and 10 RPS for different back pressures. The liquid used is water at 20C.



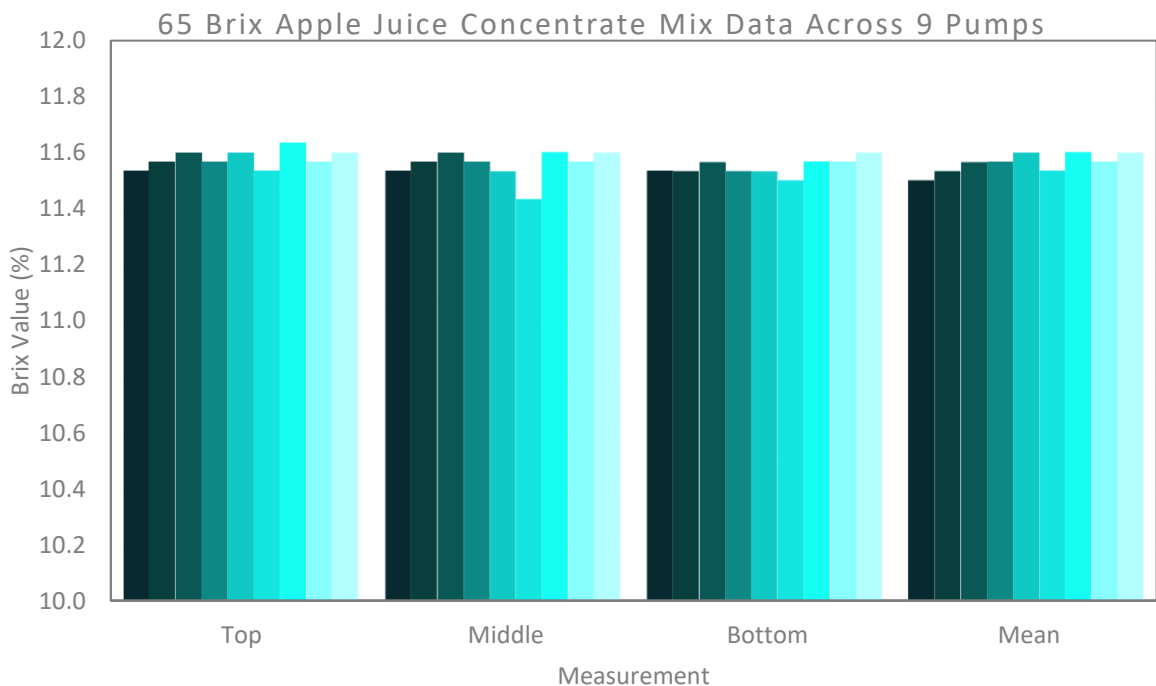
Ref: PR-19,
PR-020

A BiB-19 dilution pump has the features of a BiB19 high pressure pump but in addition it allows in pump dilution. High concentrate liquids can be mixed with water in any desired ratio from 1:1 to 1:30.

The reliability of this pump has been preliminary evaluated for hot water dispensing (i.e. beverages that require a concentrate and hot water up to 85°C as a diluent), without affecting the mechanical properties of the pump.

The following data shows an example of the performance of the BiB-19 dilution pump when used with 65 Brix Apple Concentrate. The top, middle and bottom data is taken right after dispensing. The liquid in the cup is then mechanically mixed to determine the mean brix value.

Test Specs	Water to concentrate ratio	5.75 : 1
	Inlet Water pressure	1.5 bar
	Time to fill a 200 mL cup	5 s
Test Data	Mean Cup	11.6 %Brix
	Cup to Cup Spread St. Dev	0.04 %Brix
	Stratification Spread	<0.1 %Brix



Ref: TR004